# THE OFFICE OF REGULATORY STAFF

# SURREBUTTAL TESTIMONY AND EXHIBITS

# OF

# DR. DOUGLAS H. CARLISLE

# JANUARY 4, 2013

# DOCKET NO. 2012-177-WS

# Application of Tega Cay Water Service, Incorporated for Adjustment of Rates and Charges and Modifications of Certain Terms and Conditions for the Provision of Water and Sewer Service

# SURREBUTTAL TESTIMONY AND EXHIBITS

# OF DR. DOUGLAS H. CARLISLE

# FOR

# THE OFFICE OF REGULATORY STAFF

# DOCKET NO. 2012-177-W/S

# IN RE: APPLICATION OF TEGA CAY WATER SERVICE, INCORPORATED FOR ADJUSTMENT OF RATES AND CHARGES AND MODIFICATIONS OF CERTAIN TERMS AND CONDITIONS FOR THE PROVISION OF WATER AND SEWER SERVICE

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND OCCUPATION.**

A. My name is Douglas H. Carlisle, Jr. My business address is 1401 Main Street, Columbia, SC 29201. I am the economist at the South Carolina Office of Regulatory Staff.

**Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

A. The purpose of my surrebuttal testimony in this proceeding is to respond to specific portions of rebuttal testimony provided by Mr. Dylan D'Ascendis and Ms. Pauline Ahern for Tega Cay Water Service, Inc. ("Tega Cay" or "the Company"). I will focus on the rebuttal testimony related to reliance upon analysts' estimates of earnings per share, the small company or special "business" premium, the application of portfolio risk to the comparable earnings method, and the high cost of long-term debt.

## Exclusive Reliance upon Analysts' Estimates of Earnings per Share

**Q. WHAT IS THE FUNDAMENTAL BASIS OF THE DISCOUNTED CASH FLOW ("DCF") MODEL?**

A. The DCF Model rests upon the assumption that investors value stocks according to the discounted present value of dividends in perpetuity.

**Q. WHAT HAPPENS TO THE DIVIDEND YIELD OF A STOCK IF THE PRICE OF THE STOCK INCREASES WHILE THE DIVIDEND PER SHARE ("DPS") REMAINS CONSTANT?**

A. The dividend yield falls, making the stock less attractive to investors.

**Q. WHAT DO THESE FACTS IMPLY ABOUT USING EARNINGS PER SHARE ("EPS") AND ASSUMING THAT EPS IS A PROXY FOR STOCK PRICES AND THAT STOCK PRICES ARE A PROXY FOR DIVIDENDS?**

A. They show that such assumptions or even the implication of such a relationship is contrary to the DCF Model, even before one considers the accuracy of EPS predictions.

**Q. ARE STOCK ANALYSTS' PREDICTIONS GOOD GUIDES TO STOCK PERFORMANCE?**

A. It is well established in academic and practical research that analysts' predictions are flawed. The alleged superior accuracy of analysts' estimates has been empirically disproven in multiple studies. Even John G. Cragg and Burton G. Malkiel's[1] study found that this advantage

[1] John G. Cragg and Burton G. Malkiel, Expectations and the Structure of Share Prices, University of Chicago Press, 1982, p.162.

occurred when estimates were used in conjunction with other data and the advantage was present only in short-term predictions but not in the longer term predictions of three years or more. The evidence against the superiority of analysts' estimates is too voluminous to summarize in full, but I will provide a few examples.

Donald P. Pagach, Barbara A. Chaney, and Bruce C. Branson drew this conclusion: "We find that for a surprising percentage (35-41%) of our sample of small firms that time-series based (i.e., analysis based upon historical data) earnings per share predictions are more accurate than those obtained from The Value Line Investment Survey."[2] A scholarly paper presented by Mark Bradshaw came to a similar conclusion:

> *Although analysts' earnings forecasts consistently beat random walk earnings forecasts over short windows, for longer forecasting horizons, analysts' superiority declines, and at certain horizons, analysts' forecasts are dominated by random walk forecasts. This is especially true for small firms, young firms, thinly followed firms, and when analysts forecast more extreme changes in earnings. We link this finding to stock returns, and show that the market seems to rely on random walk forecasts (or similar simple models of earnings) at longer horizons, but tends towards analysts' forecasts as the forecast horizon becomes shorter.*
>
> *While our results are not inconsistent with prior literature that concludes that analysts' forecasts are superior to forecasts from time-series models in a general sense, we find that over longer horizons, analysts' forecasts lose their relative superiority to time-series forecasts. In fact, we show that even a simple random walk forecast performs as well, in both an economic and statistical sense, relative to analysts' forecasts.*[3]

Such studies raise the possibilities that there is a potential conflict between using analysts' estimates, alleging a small-firm premium and, in the case of the Pugach, Chaney and

[2] Donald P. Pagach, Barbara A. Chaney, and Bruce C. Branson, "A Note on Earnings Forecast Source Superiority," The Journal of Applied Business Research, Volume 19, No. 3 (2003) p 75.
[3] Mark T. Bradshaw, Michael S. Drake, James N. Myers, and Linda A. Myers, "A Reëxamination of Analysts' Superiority over Time-Series Forecasts," Working Paper, December 2009, p.16,

Branson study, the use of General Autoregressive Conditional Heteroskedasticity ("GARCH") models.

Leaving aside broader concerns, a study by Chan, Karceski and Lakonishok stated that, "IBES [a market forecasting/analytical service] long-term growth estimates are associated with realized growth in the immediate short-term future. Over long horizons, however, there is little forecastability in earnings, and analysts' estimates tend to be overly optimistic…. In any event, analysts' forecasts do not do much better than a naive model that predicts a one-for-one tradeoff between current dividend yield and future growth." [4] This study identified two important factors: (1) the failure of some firms to survive tended to make the performance of forecasts look better than they actually were; and (2) economic factors account for a high proportion of corporate growth over time. It is interesting, too, to note the study's emphasis on dividend yield as a guide to growth, a point consistent with the DCF Model.

In addition to scholarly studies, popular and business articles also have noted the tendency for analysts' forecasts to be overly optimistic and imperfect guides to investors. For example, the Wall Street Journal, in 2008, cited a scholarly study[5] by Dr. J. Randall Woolridge, a professor at Pennsylvania State University, showing that analysts were usually overly optimistic in their forecasts. The Motley Fool website picked up the same information and displayed it in a very compelling way (see Surrebuttal Exhibit DHC-1) with the observation:

> *What you thought you knew about analyst estimates, short- or long-term, is bunk. Over both short runs and long runs, these highly paid analysts are overestimating the earnings growth of the companies they so closely track by a mind-blowing margin.*

[4] Louis K. C. Chan, Jason Karceski, and Joesef Lakonishok, "The Level and Persistence of Growth Rates," National Bureau of Economic Research, Cambridge, MA (May 2001), p.27.
[5] P. Cusatis and J.R. Woolridge, "The Accuracy of Analysts' Long-Term EPS? Growth Rate Forecasts," Working Paper, (July 2008).

> *On the five-year horizon, actual EPS growth clock in almost 40% below analysts' estimates. Perhaps just as disconcerting, Cusatis and Woolridge point out that the average five-year estimates were roughly double the rate of GDP growth over the same time period. So much for efficient markets.*

Another major study, by the McKinsey Group, updating its previous work, found a consistent pattern of over-optimism, even using a five-year rolling average to smooth out errors. I have included the article as Surrebuttal Exhibit DHC-2.

**Q. WHAT IMPACT DO YOU THINK SCHOLARLY AND OTHER STUDIES ABOUT ANALYSTS' ACCURACY MIGHT HAVE?**

A. Under the Efficient Market Hypothesis, information about analysts' accuracy influences investors because investors are influenced by all information available to them.

**Q. DO YOU CONSIDER ANALYSTS' ESTIMATES UNWORTHY OF CONSIDERATION?**

A. No. I consider them worthy of consideration, but I do not ascribe pinpoint accuracy or even some specific discounted accuracy to them. Some investors are bound to be influenced by analysts' estimates and a few naïve investors might be very influenced by them. In conjunction with other information, estimates can be quite useful. I have come to this conclusion based on my review of studies on the subject. For example, Dr. Aswath Damodoran's review of this issue concluded that analysts' estimates did not add much in the longer-run and that income and Book Value per Share ("BVPS") are needed to assess the value of stocks.[6] Consistent with Dr. Damodoran's and others observations concerning the inadvisability of relying solely upon analysts' estimates of EPS, I use Sales, BVPS, DPS and EPS to add value to analysts' estimates.

[6] Aswath Damodoran, Investment Valuation, 2nd ed., New York: John Wiley & Sons, Chapter 11, pp.19-26.

**Q. ARE ANALYSTS ALWAYS OPTIMISTIC?**

A. No. There is data to suggest that analysts are occasionally pessimistic when there has been a downturn in stock performance.

**Q. DO YOU CONCLUDE THAT YOU SHOULD ADD A PREMIUM, BASED UPON A CONSERVATISM OF ANALYSTS?**

A. No, I do not. A general conservatism, if it exists right now, does not necessarily apply to all categories of stocks. Consider a recent article in the Wall Street Journal that took noted analysts to task for their pessimism. [7] Although the article cited several instances of pessimistic forecasts of stocks that then soared, it also said, "If you put money on these sage predictions, there is this consolation prize: You can still claim losses against your income taxes," which suggests not all stocks rose. The article, moreover, noted that, "The Dow Jones Industrial Average is up more than 7%" in 2012." It is my professional judgment that utilities are more like industrial stocks, but safer.

**Using a Small Company Premium or Special "Business" Premiums**

**Q. DESPITE SERIOUS PROBLEMS WITH THE EXCLUSIVE USE OF ANALYSTS' ESTIMATES, SHOULD THERE BE A SPECIAL PREMIUM FOR TEGA CAY BECAUSE IT IS A SMALL COMPANY?**

A. No – for two main reasons.

The first reason is the use of the arithmetic mean to compute the returns for small companies, which produces higher and unrealizable returns, compared to the compound annual

[7] David Weidner, "2012 Was Good for Stocks, Bad for Pundits," Wall Street Journal, December 6, 2012.

growth rate, sometimes called the geometric mean, which reflects what investors actually would have earned. As an example, suppose an investor held $100 worth of stock in a company and suffered a 90% decline in its value to $10 but then had a 100% increase in its value from $10 to $20. An arithmetic average of -90% + 100% is a 5% growth rate, but a compound annual growth rate produces the real return: a loss of almost 66% each year. The relevance of the arithmetic mean arises from what is offered as support for a small company premium.

The second reason is that the whole concept of a small company premium is supported by annual data published in Stocks, Bond, Bills and Inflation. Although the raw data is doubtless correctly compiled, there are serious questions about the validity and the applicability of this premium because of the assumptions underlying how this publication interprets the data. Dr. Burton Malkiel of Princeton University and former member of the President's Council of Economic Advisors, writes in his popular investment guide, A Random Walk down Wall Street, that, "…one of the strongest patterns that investigators have found is the tendency over long periods of time for smaller company stocks to generate larger returns than those of large company stocks. Since 1926, small company stocks have produced rates of return over 1½ percentage points higher than the returns from large stocks…. However, he goes on to criticize the "small company premium" argument:

> *…it is also possible that the small firm effect found in some studies is simply a result of what is called "survivorship bias" in currently available computer tapes of past returns. Today's list of companies includes only small firms that have survived – not the small firms that later went bankrupt.*
>
> *Finally, the dependability of the small firm effect continuing is open to considerable question. Certainly during the 1990s there was little to gain from holding smaller stocks. Indeed, in most world markets it was*

> *the larger capitalization stocks that produced larger rates of return. It may be that the growing institutionalization of the market led portfolio managers to prefer larger companies with more liquidity to smaller companies where it would be difficult to liquidate significant blocks of stock. Clearly, buying a portfolio of small firms is hardly a surefire technique to enable an investor to earn abnormally high, risk-adjusted returns.*[8]

For purposes of illustration, I have taken some publicly traded water companies to see how analysts' estimates came out:

EPS *Source: Value Line*

| Larger Companies | | | | | | Was Estimate Accurate? |
|---|---|---|---|---|---|---|
| Ticker[9] | 2007 Actual | 2007 Estimate for 10-12 | Actual 2010 | Actual 2011 | As of Q3 estimate 2012 | |
| AWR | 1.62 | 2.15 | 2.22 | 2.23 | 2.45 | no |
| WTR | 0.71 | 1.05 | 0.90 | 1.03 | 1.05 | yes |
| CWT | 1.50 | 2.15 | 0.91 | 0.86 | 0.95 | no |
| **SWWC** | **0.31** | **0.70** | - | - | | **no** |

| Smaller Companies | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ticker | 2007 Actual | 2007 Estimate for 08-09 | SJW Actual 2008 | Actual 2009 | Actual 2010 | Actual 2011 | 3rd Q 2012 | |
| CTWS | 1.05 | 1.13 | | 1.11 | 1.13 | 1.13 | 1.41 | yes |
| MSEX | 0.87 | 0.88 | | 0.89 | 0.96 | 0.84 | 0.85 | yes |
| SJW | 1.04 | 1.48 | 1.04 | 1.08 | 0.84 | 1.11 | 1.05 | no |
| YORW | 0.57 | 0.68 | | 0.57 | 0.71 | 0.71 | 0.71 | yes |

The estimates were correct for the three to five year period for four of the eight companies. However, they were incorrect for half of the companies. Not only were they wrong

[8] Burton G. Malkiel, A Random Walk down Wall Street, N.Y., N.Y. : W.W. Norton & Co., 2003, p.259.

Note that the 1 ½ % differential that Dr. Malkiel cites is based on the geometric mean, see Ibid., p. 209.

[9] AWR=American States Water WTR=Aqua America CWT=California Water
SWWC=Southwest Water Co. CTWS=Connecticut Water Service MSEX=Middlesex Water Co.
SJW=SJW Corp. YORW=York Water Co.

for four, but one of these four, Southwest Water Company experienced a dramatic loss of investor confidence when it was revealed that it had incorrectly depreciated acquired properties. Southwest Water Company faced possible delisting from stock exchanges by the Securities and Exchange Commission, investor lawsuits, and a greater than 50% decline in its share price. Ultimately the Southwest Water Company went private, like Utilities, Inc., so it had no publicly traded shares for the period of Value Line estimates. If Southwest Water Company is excluded from analysis, Value Line's estimates improve, but such a method is questionable and its results are biased. If small companies are indeed riskier in general, as Dr. Malkiel observes, an important risk is bankruptcy and the failure to allow its shareholders to recover their investments, much less make a return. A true measurement of return from small companies would take into consideration losses from failed companies as well as exceptional gains from surviving companies. In the case of regulated utilities, there is a fairly inelastic demand for the product being sold and government regulation guarantees a level of support for earnings that is absent in unregulated companies.

**Q. APART FROM THE LACK OF GOOD GENERAL EVIDENCE FOR A SMALL-COMPANY PREMIUM, DO YOU BELIEVE THAT THERE ARE RISKS ASSOCIATED WITH TEGA CAY THAT MERIT A PREMIUM?**

A. No. One might argue such a premium may conceivably apply to a company in difficult circumstances, if no regulatory relief were available, but Tega Cay does not face such circumstances. It does not rely heavily on a single customer or face the loss of such a customer and it does not face any uncertainty in either the supply or the recovery of the cost of water. Thus, supply, demand, and price are all stable and well assured and certainly not under imminent and serious threat.

## The Application of Portfolio Risk to Comparable Earnings Method

**Q. IS THERE A THEORETICAL CASE TO BE MADE FOR A PREMIUM TO TEGA CAY, BASED ON TEGA CAY'S COMPARABILITY TO OTHER COMPANIES?**

A. Not at all. The criticism from Ms. Ahern that my CEM analysis only considers Beta ("β") and therefore only eliminates systematic, undiversifiable risk is incorrect in two or more respects.

The Applicant's first argument, from the Capital Asset Pricing Model ("CAP-M") states that β only represents systematic, market risk and therefore any group of companies chosen on that basis ignores non-systematic non-market risk. Under CAP-M that argument is fallacious. Under CAP-M an investor holds a portfolio of stocks, so that any idiosyncratic risks can be diversified away, thereby controlling for those risks not measured by β. Even if Tega Cay faced real risks and had real stock, it is not clear that it would be obliged to pay extra to retain investors who held a portfolio of stocks.

The second argument is that, under CAP-M, a company that faces a differentially higher impact from systematic risks has risks that cannot be diversified away. Tega Cay may indeed have more risks, but they do not come from a differential impact due to economic changes. I disagree that Tega Cay should receive additional compensation from such risks as those arising from discharging wastewater into a lake or having a Long-Term Debt above the norm. Absent some compelling criteria, my use of β ranges and BVPS is both appropriate and more likely to produce an accurate estimate of ROE than an invocation of risks that do not exist.

One might argue that CAP-M theory should not apply to a CEM, so diversifying risk away through a portfolio is not a legitimate response to the criticism of my CEM and true comparability should be based on BVPS, but there are two problems with this argument: (1) Tega Cay does not face any differential impact to any imputable BVPS; and, (2) Ms. Pauline Ahern cites her article, "Comparable Earnings: New Life for an Old Precept" as a model for a CEM analysis, but, instead, she herself uses her new method for her Risk Premium analysis. This second problem with her criticism is compounded by the faulty assumptions that (1) the risk premium can be determined under current circumstances; and, (2) that A rated utility bonds are an accurate measurement of a low-risk or riskless investment. In the current monetary environment, the true risk-free rate is unknown because no one is entirely sure of the impact of the Federal Reserve's "Twist" and Quantitative Easing policies. Even if the impact could be known, determining the proper interpretation of it poses issues fraught with difficulties. Even if all these difficulties could be overcome, the problem of knowing how artificially low Federal Rates affect corporate borrowing rates would remain.

**The High Cost of Long-Term Debt**

**Q. WHY DOES YOUR DIRECT TESTIMONY CITE BOTH MARGINAL AND AVERAGE COSTS OF DEBT?**

A. It does so in order to demonstrate that companies with several issues of debt outstanding have a lower average rate than Tega Cay, and that considerably lower rates are available now.

**Q. WHAT DOES THE PHRASE "CURRENT INTEREST RATE" FOR CORPORATE BONDS AS MENTIONED IN YOUR DIRECT TESTIMONY DEMONSTRATE?**

A. It means the marginal cost of debt.

**Q. WHAT DOES CITING A CURRENT OR MARGINAL RATE DEMONSTRATE?**

A. It demonstrates that interest rates, even for the lower-ranked investment grade corporate bonds, remain at 6.00% or below.

**Q. DID YOU CITE ANY OTHER MARGINAL RATES?**

A. Yes. I cited a flotation by South Carolina Electric & Gas Company ("SCE&G") and another by Duke Energy Carolinas ("DEC"). Both of these were below 4.00%. The average cost of Long-Term Debt in SCE&G's most recent rate case filing (Docket # 2012-218-E) was 5.97% and the average cost in DEC's most recent case filing (Docket # 2011-271-E) was 5.39%.

**Q. WHAT HAS BEEN THE TREND IN THE SHORT-TERM LONDON INTERBANK OFFERED RATE ("LIBOR") THAT YOU MENTIONED IN YOUR DIRECT TESTIMONY?**

A. The one-month LIBOR trend over ten years, even with significant percentage points added, has averaged below 6.00%. In recent years, it has been significantly lower (Surrebuttal Exhibit DHC-3).

**Q. IN YOUR DIRECT TESTIMONY, DID YOU HAVE ANY EXAMPLE OF WEIGHTED AVERAGE COST OF DEBT USED IN A RATE CASE?**

A. Yes. I cited the case of Arizona American Water Company, with a weighted cost of debt at 5.66%.

**Q. WHAT ABOUT YOUR MENTION OF YORK WATER COMPANY – IS THAT AN INSTANCE OF MARGINAL OR AVERAGE COST OF LONG-TERM DEBT?**

A. It is a rolling average of average cost; that is, I show the average cost for each of five years. My exhibit (Direct Testimony DHC-13) shows York Water Company's weighted average cost of debt year by year.

**Q. DO YOU KNOW OF ANY OTHER WATER COMPANY THAT HAS RECENTLY BORROWED AT A LOWER RATE THAN TEGA CAY FACES?**

A. Yes. Daufuskie Island Utility Company has obtained a loan from a major commercial bank for an interest rate equivalent to LIBOR + 3%.

**Q. ARE THERE UNIQUE FACTORS THAT UTILITIES, INC. FACES THAT YOU BELIEVE MIGHT INFLUENCE ITS WEIGHTED AVERAGE COST OF DEBT?**

A. Yes. Utilities, Inc. does not have publicly traded stock/equity, does not have to face public scrutiny of its finances and financial records in the same manner and degree that a publicly traded company does, and Utilities, Inc. reports to an entity created by the Parliament of the

Province of British Columbia, Canada. One would expect Utilities, Inc., therefore, to enjoy greater flexibility in its financial proceedings and to take advantage of the extremely low rates that are currently available. Such flexibility could well enable its operating companies to lower interest rates for years to come.

**Q. DO YOU BELIEVE THAT TEGA CAY HAS BEEN IMPRUDENT WITH REGARD TO ITS LONG-TERM DEBT?**

A. Since Tega Cay does not manage its own Long-Term Debt, it is not possible to conclude it has been imprudent.

**Q. DO YOU BELIEVE THAT UTILITIES, INC. HAS BEEN IMPRUDENT WITH REGARD TO ITS LONG-TERM DEBT?**

A. Utilties, Inc. is not a regulated utility, so I cannot make a recommendation addressed to whether it has been imprudent.

**Q. IF NEITHER OPERATING OR HOLDING COMPANY IN THIS CASE IS DIRECTLY REACHABLE, WHAT IS THE POINT OF YOUR RECOMMENDING THAT THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA CONSIDER THE IMPACT ON TEGA CAY'S RATE OF RETURN IF ITS LONG-TERM DEBT RATE WAS REDUCED BY 60 BASIS POINTS?**

A. A basic economic principle is that proper incentives bring desirable behavior and perverse incentives bring undesirable behavior. In the case of Tega Cay's debt rate, there is no incentive at all for the Utilities, Inc. to obtain the best rate possible or to manage debt so as to minimize its cost to ratepayers. Debt is not an ordinary expense, but rather is baked into the

capital structure, directly affects the Rate of Return, and is generally accepted as a given, unalterable fact.

A history of some interest rates supports my concern related to Tega Cay's Long-Term Debt rate. Surrebuttal Exhibit DHC-3 shows the LIBOR with some percentage point adders: 1%, 2% and 3.25%. Three facts emerge from this chart: (1) in the year that Utilities, Inc. incurred its debt, rates were high and 6.58% may not have been unreasonable, if LIBOR plus an adder is a reasonable benchmark; (2) rates were lower before and after this period, so Utilities, Inc. borrowed at the height of the market; (3) rates have remained substantially lower since they fell. We all know the reason for the third fact is that the Federal Reserve has deliberately kept rates low and has announced its intention to continue doing so. One cannot consider these facts in isolation – together they show that Utilities, Inc. has not managed its debt so as to mitigate high interest rates.

**Q. IS THERE ANYTHING THAT A COMPANY COULD DO TO MITIGATE HIGH BORROWING RATES?**

A. There are several. I will mention three general ones, while noting that these are not exhaustive. I could discuss derivative instruments and interest rate swaps, but I only want to illustrate how a company might avoid or mitigate high interest rates. First, is to avoid borrowing in single deals, somewhat analogous to Dollar-cost-averaging. Second, is to borrow for shorter periods, which tends to lower interest rates. Third, is to borrow short-term and roll that debt over to span years. Indeed, Utilities, Inc. had considerable Short-Term Debt that portion of debt was recognized in testimony and the Virginia Corporation Commission ("VCC") decision in the application of Massanutten Public Service Corporation ("Massanutten"), a Utilities, Inc.

subsidiary (Case No. PUE-2009-00041). Although Massanutten filed with a capital structure of 52.296% Long-Term Debt and 46.704% Common Equity, VCC staff recommended 47.320% Long-Term Debt and 42.085% Common Equity, and 10.596% Short-Term Debt. Even with VCC staff's use of a different method for calculating Long-Term Debt that raised its cost rate, the much higher portion of Short-Term debt lowered the Rate of Return. The decision in the VCC Case, No. PUE-2009-00041 recognized the Rate of Return based on this Capital Structure. Since that time, Utilities, Inc. has eliminated its Short-Term Debt. The absence of Short-Term Debt, especially with passing of the "credit crunch" that ushered in our recent recession and the drastic fall in shorter-term rates, means that Tega Cay remains burdened by an excessively high interest rate when borrowing rates are low.

**Q. IS IT FAIR TO RAISE THE ISSUE OF THE LONG-TERM DEBT RATE SINCE TEGA CAY CANNOT CONTROL THE DECISIONS MADE BY ITS PARENT COMPANY, UTILITIES, INC.?**

A. It is unfair for Ms. Pauline Ahern to assert that the Company deserves a higher return because it is riskier while Utilities, Inc. assumes a burden of debt that is significantly higher than that of other companies operating in South Carolina. I do not agree that a linear relationship between debt and equity costs exists, but if, like Ms. Ahern, one believes in such a relationship, it seems very unfair for Tega Cay to pay a high interest rate while also arguing that a high risk premium justifies a higher ROE.

**Q. WHY DID YOU NOT ADJUST THE CAPITAL STRUCTURE OF TEGA CAY TO REFLECT YOUR CONCERN ABOUT DEBT?**

A. I do not want to manage Tega Cay or Utilities, Inc., but rather to encourage them to seek cheaper financing.

**Q. DOES YOUR RECOMMENDATION THAT THE PSC "CONSIDER" THE EFFECT OF A LOWER DEBT RATE MEAN THAT YOU HAVE DOUBTS ABOUT THE VALIDITY OF YOUR RECOMMENDATION?**

A. I have no doubt about my observations related to Tega Cay's high debt rate. The Commission should be aware of the management decisions made by Tega Cay and its parent company and how those decisions can impact South Carolina customers.

**Q. HAVE YOU IN YOUR TESTIMONY ADVOCATED THAT TEGA CAY REFINANCE ITS DEBT?**

A. No.

**Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

A. Yes.

The Motley Fool. Fool.com.

Previous Page

# The Wall Street Myth That Could Destroy Your Portfolio

http://www.fool.com/investing/dividends-income/2008/05/01/the-wall-street-myth-that-could-destroy-your-portf.aspx

Joe Magyer
May 1, 2008

It is a pervasive myth that has left the savings of countless small investors in ruins. More likely than not, it is a piece of information you've relied on while making investment decisions. Maybe you told yourself it was too good to be true, but deep down you *wanted* it to be true, and so you believed it.

**A myth debunked**
Fool dividend gurus Andy Cross and James Early tipped me off to a recent eye-opening study by Patrick Cusatis and J. Randall Woolridge of Pennsylvania State University. Cusatis and Woolridge studied 20 years' worth of published earnings estimates made by Wall Street industry analysts. What they found was startling.

Cusatis and Woolridge found that Wall Street analysts -- supposedly among the smartest, most well-informed prognosticators -- consistently overestimated the future earnings growth rates of the companies they cover. By a lot. I mean by a *whole lot*.

Here is a table showing the researchers' findings when it comes to the average forecasted annual EPS growth compared to the actual results over the time horizon of the forecast:

| Time Frame of Estimate | Estimated Growth | Actual Growth | Overestimated by |
|---|---|---|---|
| 1 Year | 13.8% | 9.8% | 4% |
| 5 Years | 14.9% | 9.1% | 5.8% |

Source: "The Accuracy of Analysts' Long-Term Earnings-Per-Share Growth Rate Forecasts," Cusatis and Woolridge.

That's a tiny table with huge implications.

**Why you should be concerned**
What you thought you knew about analyst estimates, short- or long-term, is bunk. Over both short runs and long runs, these highly paid analysts are overestimating the earnings growth of the companies they so closely track by a mind-blowing margin.

On the five-year horizon, actual EPS growth clocked in almost 40% *below* analysts' estimates. Perhaps just as disconcerting, Cusatis and Woolridge point out that the average five-year estimates were roughly *double* the rate of GDP growth over the same time period. So much for efficient markets.

Now, while the cause of this mind-boggling inaccuracy is debatable, the *consequence* of it for individual investors is straightforward. Namely, that you can only take analysts' forecasts with a grain of salt at best, and, practically speaking, you should ratchet them down to the tune of around 40%.

**Ouch**
For perspective, here is a list of stocks that analysts expect to grow at a rapid rate over the next five years versus what might be a more realistic growth rate based on Cusatis and Woolridge's analysis:

| Company | Analysts' 5-Year EPS Growth Estimates | Adjusted 5-Year EPS Growth Estimates |
|---|---|---|
| **Google** (Nasdaq: GOOG _) | 28.4% | 17.3% |
| **Apple** (Nasdaq: AAPL _) | 23% | 14.1% |
| **Evergreen Solar** (Nasdaq: ESLR _) | 35% | 21.4% |
| **Monsanto** (NYSE: MON _) | 36.9% | 22.5% |
| **Research In Motion** (Nasdaq: RIMM _) | 33.9% | 20.7% |
| **First Solar** (Nasdaq: FSLR _) | 45.3% | 27.7% |
| **China Mobile** (NYSE: CHL _) | 24.6% | 15% |

Bit of an eye-opener, right? Those are some serious haircuts. Perhaps you're thinking, "So what if First Solar doesn't deliver 50% annual growth over the next five years? I'd be plenty happy with the 28% 'adjusted' scenario." That line of thinking, friends, is how you get burned.

Put simply, stocks that don't live up to heady expectations go down. Hard. Ask a disgruntled investor in **Crocs** or **NutriSystem** what happens when a stock with huge growth expectations fails to live up to the hype.

**Your next steps**
These new findings demonstrate clearly that you must change the way you look at investing, particularly in growth stocks.

For starters, stop lusting after the next rocket stock, or whatever you want to call it. Growth isn't inherently a bad thing, but if this study has shown us anything it is that the ability to forecast growth accurately over the short run or long run, even when attempted by savvy experts, is akin to long-distance dart throwing. Are you an investor or a dart-thrower?

**Don't overcomplicate things**
Empirical research has shown that market-beating performance is as easy as investing in low-growth, dividend-paying stocks, with the added benefit of lower volatility. Personally, I'll take low-volatility, market-beating returns over the stress of finding the next home run stock any day.

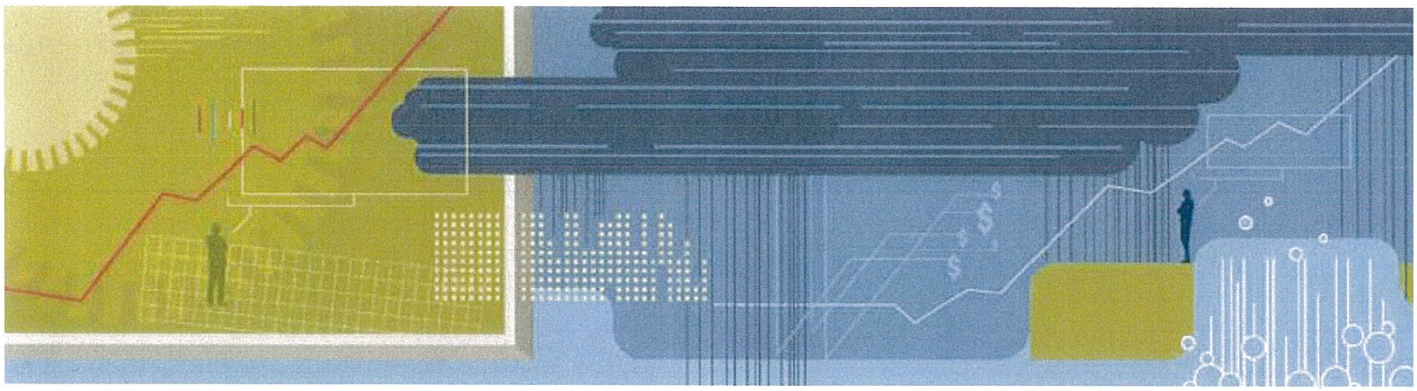
Andy Cross and James Early, the two dividend gurus I mentioned earlier who tipped me off to this tale of Wall Street folly, execute just such a strategy with their *Income Investor* newsletter service. Try the service free for 30 days to see if their low-volatility, high-returns approach is right for you.

And in the meantime, don't trust analysts' estimates. No, really.

*Joe Magyer does not own shares of any companies mentioned in this article. Not exactly surprising, right? Apple is a* Stock Advisor *recommendation. The Motley Fool has a disclosure policy.*



**Previous Page**



# **Equity analysts:** Still too bullish

**After almost a decade of stricter regulation, analysts' earnings forecasts continue to be excessively optimistic.**

**Marc H. Goedhart, Rishi Raj, and Abhishek Saxena**

No executive would dispute that analysts' forecasts serve as an important benchmark of the current and future health of companies. To better understand their accuracy, we undertook research nearly a decade ago that produced sobering results. Analysts, we found, were typically overoptimistic, slow to revise their forecasts to reflect new economic conditions, and prone to making increasingly inaccurate forecasts when economic growth declined.[1]

Alas, a recently completed update of our work only reinforces this view—despite a series of rules and regulations, dating to the last decade, that were intended to improve the quality of the analysts' long-term earnings forecasts, restore investor confidence in them, and prevent conflicts of interest.[2] For executives, many of whom go to great lengths to satisfy Wall Street's expectations in their financial reporting and long-term strategic moves, this is a cautionary tale worth remembering.

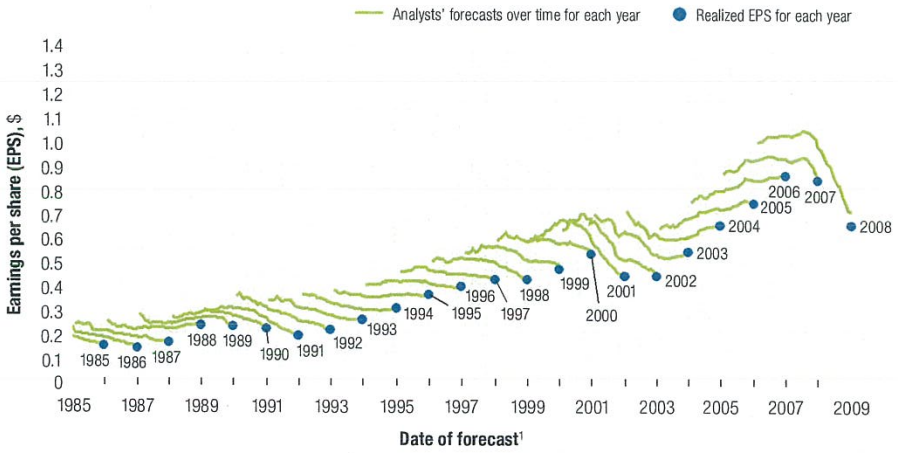
Exceptions to the long pattern of excessively optimistic forecasts are rare, as a progression of consensus earnings estimates for the S&P 500 shows (Exhibit 1). Only in years such as 2003 to 2006, when strong economic growth generated actual earnings that caught up with earlier predictions, do forecasts actually hit the mark.

Exhibit 1

## Off the mark

With few exceptions, aggregate earnings forecasts exceed realized earnings per share.

**S&P 500 companies**




[1]Monthly forecasts.

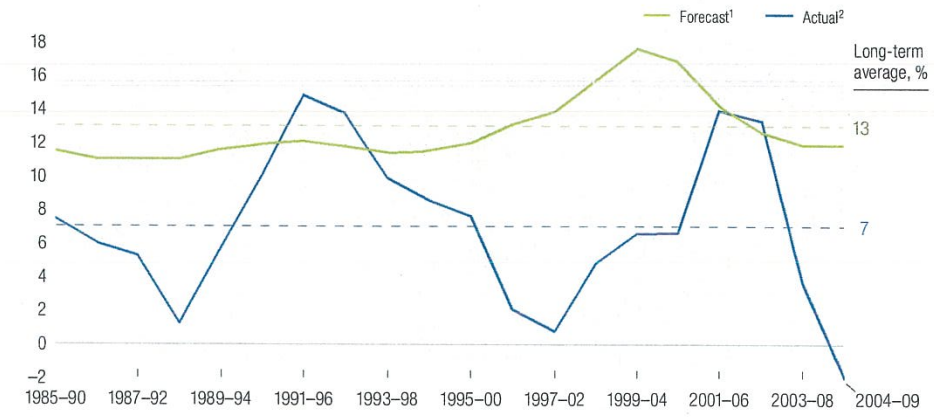
Source: Thomson Reuters I/B/E/S Global Aggregates; McKinsey analysis

Exhibit 2

## Overoptimistic

Actual growth surpassed forecasts only twice in 25 years—both times during the recovery following a recession.

**Earnings growth for S&P 500 companies, 5-year rolling average, %**



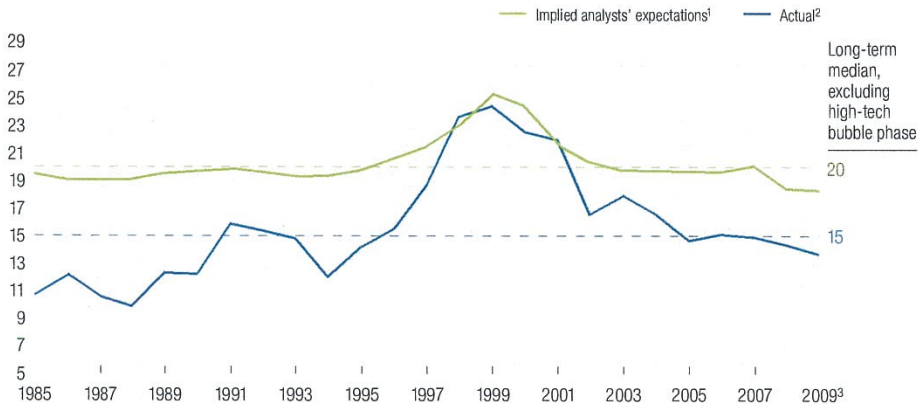

[1]Analysts' 5-year forecasts for long-term consensus earnings-per-share (EPS) growth rate. Our conclusions are same for growth based on year-over-year earnings estimates for 3 years.
[2]Actual compound annual growth rate (CAGR) of EPS: 2009 data are not yet available, figures represent consensus estimate as of Nov 2009.

Source: Thomson Reuters I/B/E/S Global Aggregates; McKinsey analysis

Exhibit 3
## Less giddy

Capital market expectations are more reasonable.

**Actual P/E ratio vs P/E ratio implied by analysts' forecasts,** S&P 500 composite index




[1]P/E ratio based on 1-year-forward earnings-per-share (EPS) estimate and estimated value of S&P 500. Estimated value assumes: for first 5 years, EPS growth rate matches analysts' estimates then drops smoothly over next 10 years to long-term continuing-value growth rate; continuing value based on growth rate of 6%; return on equity is 13.5% (long-term historical median for S&P 500), and cost of equity is 9.5% in all periods.
[2]Observed P/E ratio based on S&P 500 value and 1-year-forward EPS estimate.
[3]Based on data as of Nov 2009.

Source: Thomson Reuters I/B/E/S Global Aggregates; McKinsey analysis

This pattern confirms our earlier findings that analysts typically lag behind events in revising their forecasts to reflect new economic conditions. When economic growth accelerates, the size of the forecast error declines; when economic growth slows, it increases.[3] So as economic growth cycles up and down, the actual earnings S&P 500 companies report occasionally coincide with the analysts' forecasts, as they did, for example, in 1988, from 1994 to 1997, and from 2003 to 2006.

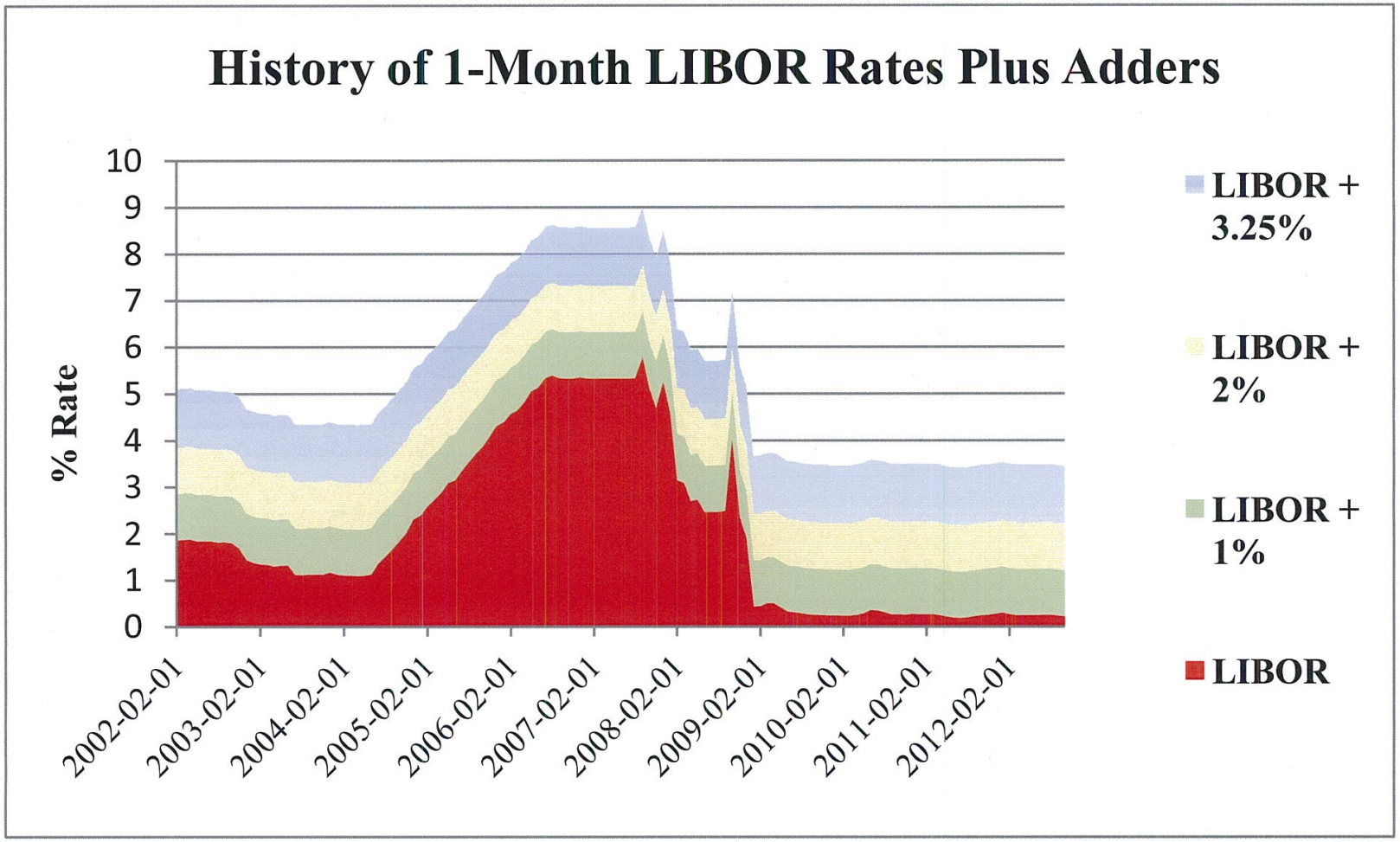
Moreover, analysts have been persistently overoptimistic for the past 25 years, with estimates ranging from 10 to 12 percent a year,[4] compared with actual earnings growth of 6 percent.[5] Over this time frame, actual earnings growth surpassed forecasts in only two instances, both during the earnings recovery following a recession (Exhibit 2). On average, analysts' forecasts have been almost 100 percent too high.[6]

Capital markets, on the other hand, are notably less giddy in their predictions. Except during the market bubble of 1999–2001, actual price-to-earnings ratios have been 25 percent lower than implied P/E ratios based on analyst forecasts (Exhibit 3). What's more, an actual forward P/E ratio[7] of the S&P 500 as of November 11, 2009—14—is consistent with long-term earnings growth of 5 percent.[8] This assessment is more

reasonable, considering that long-term earnings growth for the market as a whole is unlikely to differ significantly from growth in GDP,[9] as prior McKinsey research has shown.[10] Executives, as the evidence indicates, ought to base their strategic decisions on what they see happening in their industries rather than respond to the pressures of forecasts, since even the market doesn't expect them to do so.

[1] Marc H. Goedhart, Brendan Russell, and Zane D. Williams, "Prophets and profits," mckinseyquarterly.com, October 2001.
[2] US Securities and Exchange Commission (SEC) Regulation Fair Disclosure (FD), passed in 2000, prohibits the selective disclosure of material information to some people but not others. The Sarbanes–Oxley Act of 2002 includes provisions specifically intended to help restore investor confidence in the reporting of securities' analysts, including a code of conduct for them and a requirement to disclose knowable conflicts of interest. The Global Settlement of 2003 between regulators and ten of the largest US investment firms aimed to prevent conflicts of interest between their analyst and investment businesses.
[3] The correlation between the absolute size of the error in forecast earnings growth (S&P 500) and GDP growth is –0.55.
[4] Our analysis of the distribution of five-year earnings growth (as of March 2005) suggests that analysts forecast growth of more than 10 percent for 70 percent of S&P 500 companies.
[5] Except 1998–2001, when the growth outlook became excessively optimistic.
[6] We also analyzed trends for three-year earnings-growth estimates based on year-on-year earnings estimates provided by the analysts, where the sample size of analysts' coverage is bigger. Our conclusions on the trend and the gap vis-à-vis actual earnings growth does not change.
[7] Market-weighted and forward-looking earnings-per-share (EPS) estimate for 2010.
[8] Assuming a return on equity (ROE) of 13.5 percent (the long-term historical average) and a cost of equity of 9.5 percent—the long-term real cost of equity (7 percent) and inflation (2.5 percent).
[9] Real GDP has averaged 3 to 4 percent over past seven or eight decades, which would indeed be consistent with nominal growth of 5 to 7 percent given current inflation of 2 to 3 percent.
[10] Timothy Koller and Zane D. Williams, "What happened to the bull market?" mckinseyquarterly.com, November 2001.

**Marc Goedhart** (Marc_Goedhart@McKinsey.com) is a consultant in McKinsey's Amsterdam office; **Rishi Raj** (Rishi_Raj@McKinsey.com) and **Abhishek Saxena** (Abhishek_Saxena@McKinsey.com) are consultants in the Delhi office. 




Source: St. Louis Federal Reserve, data series USD3MTD156N